



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent XWB-79B
 UNIQUE ID NUMBER: 01P18RR122
 COMBUSTOR: Phase5 Tiled
 ENGINE TYPE: TF

BYPASS RATIO: 9.2
 PRESSURE RATIO (π_{co}): 38.8
 RATED THRUST (F_{oo}) (kN): 355.2

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F _{oo} (g/kN) or SN	1.8	32.3	50.2	11.3
AS % OF ORIGINAL LIMIT	8.9	27.3	42.7	67.4
AS % OF CAEP/2 LIMIT (NO _x)			53.4	
AS % OF CAEP/4 LIMIT (NO _x)			59.3	
AS % OF CAEP/6 LIMIT (NO _x)			65.6	
AS % OF CAEP/8 LIMIT (NO _x)			74.1	

For non-volatile particulate matter (nvPM) emissions, please refer to the ICAO Engine nvPM Emissions Data Sheet.

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 x REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 - OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F _{oo})	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.601	0.00	0.39	40.20	5.8
CLIMB OUT	85	2.2	2.129	0.00	0.40	30.88	7.0
APPROACH	30	4.0	0.755	0.01	1.36	10.59	6.5
IDLE	7	26.0	0.280	1.22	23.37	4.23	1.6
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1008	534	10597	16834	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				6	6	6	6
AVERAGE D _p /F _{oo} (g/kN) or AVERAGE SN (MAX)				1.5	29.8	47.4	10.3
SIGMA (D _p /F _{oo} in g/kN, or SN)				0.2	2.5	1.6	2.2
RANGE (D _p /F _{oo} in g/kN, or SN)				1.34-1.77	27.12-31.92	45.6-48.8	7.8-12.1

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5-101.9
TEMPERATURE (K)	280-295
ABS HUMIDITY (kg/kg)	0.00062-0.00964

FUEL

SPEC	
H/C	1.87
AROM (%)	17.25

MANUFACTURER: Rolls-Royce plc
 TEST ORGANIZATION: Rolls-Royce
 TEST LOCATION: Derby
 TEST DATES: 01/04/2012-20/04/2016

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

- Data from Certification Report EDNS01000588237 Iss 2
- Certification in accordance with Part III, Chapter 2, of Amendment 8 of ICAO Annex 16 Vol. II.
- NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e) (CAEP/8)

Compliance with Fuel Venting requirements: x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)